a13 end

20. (newly-added) The solid-state imaging device as set forth in claim 17 wherein said first film of tungsten has a thickness in a range of 20 to 100 nm, and said second film of tungsten has a thickness in a range of about 80 nm to 200 nm so as to maintain a satisfactory light-shielding property.

REMARKS

This preliminary amendment is requested to place the divisional application in substantially the same form as its co-pending parent application and to cancel claims 7 to 15.

It is requested that the art cited and made of record in the parent application be considered in this divisional application.

Entry of the foregoing amendment prior to examination is respectfully requested. An early and favorable action on the material is respectfully requested. Should there be any questions regarding the application, the Examiner is invited to telephone the undersigned at telephone number listed below.

Respectfully submitted,

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APPENDIX

IN THE SPECIFICATION:

Please replace the paragraph beginning on page 3, line 11, with the following rewritten paragraph:

--Since the size of [pixel in CCD]a pixel in a CCD is reduced as a camera is miniaturized recently, there is an increasing demand [of]for a light-shielding film which is strong against the transmission of light and which may be reduced in thickness.--

Please replace the paragraph beginning on page 4, line 2, with the following rewritten paragraph:

--According to a first aspect of the present invention, there is provided a solid-state imaging device having a light-receiving portion formed on a semiconductor substrate and a light-shielding film formed so as to cover an electrode formed on the semiconductor substrate at least on its regions other than a region above the light-receiving portion. This solid-state imaging device is arranged such that the light-shielding film has a multilayer structure including a first film formed of a film deposited by sputtering or vapor deposition and a second film deposited by [a] chemical vapor deposition.--

Please replace the paragraph beginning on page 4, line 23, with the following rewritten paragraph:

--According to a third aspect of the present invention, there is provided a method of manufacturing a semiconductor device which comprises the steps of forming a first film on the surface of a substrate by sputtering or vapor deposition,

removing a native oxide from the surface of the first film, forming a second film on the first film by [the]chemical vapor deposition, and forming a conductive film of a mulitlayer film including the first film and the second film.--

Please replace the paragraph beginning on page 5, line 4, with the following rewritten paragraph:

--According to the solid-state imaging device of the present invention, since the first film is formed of the film deposited by sputtering or vapor deposition, the first film has an excellent adhesion with the underlayer. Also, since the second film formed of the tungsten film deposited by [the]chemical vapor deposition is formed on the first film, the second film is formed with an excellent adhesion through the first film, and a sufficient light-shielding property may be maintained by the second film.--

Please replace the paragraph beginning on page 5, line 12, with the following rewritten paragraph:

-- According to the method of manufacturing a solid-state imaging device of the present invention, since the first film is formed of the film deposited by sputtering or vapor deposition, the first film is deposited with an excellent adhesion with the underlayer. Also, since the second film formed of the tungsten film is formed on the first film, the second film is formed with an excellent adhesion through the first film. Also, since the second film is deposited by [the] chemical vapor deposition, a step coverage is satisfactory and a leakage of light from a step side wall or the like may be prevented, thereby making is possible to maintain a sufficient light-shielding property.--

Please replace the paragraph beginning on page 6, line 15, with the following rewritten paragraph:

--According to the present invention, there is provided a solid-state imaging device having a light-receiving portion formed on a semiconductor substrate and a light-shielding film formed so as to cover an electrode formed on the semiconductor substrate at least on its regions other than a region above the light-receiving portion. This solid-state imaging device is characterized in that the light-shielding film has a mulitlayer structure including a first film formed of a film deposited by sputtering or vapor deposition and a second film deposited by [the] chemical vapor deposition.--

Please replace the paragraph beginning on page 6, line 25, with the following rewritten paragraph:

--According to the present invention, there is provided a method of manufacturing a solid-state imaging device which comprises the steps of forming a light-receiving portion on a semiconductor substrate, forming an electrode on the semiconductor substrate at least on its regions other than a region above the light-receiving portion, forming an insulating film on the electrode, and forming a light-receiving portion so as to cover the insulating film, wherein the light-shielding film is formed in such a manner that, after a first film is formed by sputtering or vapor deposition, a second film is formed on the first film by [the] chemical vapor deposition.--

Please replace the paragraph beginning on page 6, line 9, with the following rewritten paragraph:

--According to the present invention, there is provided a method of manufacturing a semiconductor device which comprises

the steps of forming a first film on the surface of a substrate by sputtering or vapor deposition, removing a natural oxide from the surface of the first film, forming a second film on the first film by [the] chemical vapor deposition, and forming a conductive film of a multilayer film including the first film and the second film.--

Please replace the paragraph beginning on page 11, line 10, with the following rewritten paragraph:

--Incidentally, if the surface of the second film 12, i.e. the surface of the light-shielding film 6 is rough, then incident light is irregularly reflected on such rough surface so that a light-receiving amount of each pixel is fluctuated, thereby resulting in a [sensitivity being fluctuated] fluctuating sensitivity.--

Please replace the paragraph beginning on page 13, line 4, with the following rewritten paragraph:

--As the material of the first film 11 formed by [the] sputtering or vapor deposition, there may be enumerated, in addition to tungsten, metal such as aluminum, gold, chromium or the like and metal silicide such as molybdenum silicide, tungsten silicide or the like.--

Please replace the paragraph beginning on page 14, line 9, with the following rewritten paragraph:

--Subsequently, a natural oxide formed on the surface of the [firs] first films is removed, whereby the surface of the first film is made flat. Thus, the flatness of the surface of an interconnection layer or the contact buried layer is formed of the subsequent second film becomes satisfactory. As a result, the

interconnection layer or the contact layer buried layer is formed of the two layer structure comprising the first film and the second film.--

IN THE CLAIMS:

Please cancel claims 7-15 without prejudice or disclaimer, amend claim 1 and add claims 16-20.

1. (Amended) In a solid-state imaging device having a light-receiving portion on a semiconductor substrate and a light-shielding film formed so as to cover ane lectrode formed on said semicondcutor substrate on its regions other than a region above said light-receiving protion, said solid-state imaging device being formed such that said light-shielding film has a mulitlayer structure including first film formed of a film deposited by [a] sputtering or vapor deposition and a second film deposited by [a] chemical vapor deposition.

16. (newly-added) A solid-state imaging device, comprising:

a semiconductor substrate;

a light-receiving portion formed on said substrate; and

a light-shielding film formed to cover an electrode formed on said semiconductor substrate on its regions other than a region above said light-receiving portion, said light-shielding film comprising a multi-layer structure including a first film formed as an adhesion film and deposited by sputtering or vapor deposition, and a second film deposited by chemical vapor deposition.

17. (newly-added) The solid-state imaging device as set forth in claim 16, wherein said first film is formed of a

tungsten film and said second film is formed of a tungsten film.

18. (newly-added) The solid-state imaging device as set forth in claim 16, wherein said electrode is a transfer electrode formed on the semiconductor substrate at its area other that the area in which the light-receiving portion is formed through a gate insulating film, said light-shielding film formed on the transfer electrode through an interlayer insulating film, said light-shielding film preventing light from becoming incident on the transfer electrode.

19. (newly-added) The solid-state imaging device as set forth in claim 18, further comprising an interlayer insulating film formed over the surface of the light-shielding film, a planarization film formed over the surface of the interlayer insulating film, a color filter formed on the planarization film, and a micro-lens formed on the color filter.

20. (newly-added) The solid-state imaging device as set forth in claim 17 wherein said first film of tungsten has a thickness in a range of 20 to 100 nm, and said second film of tungsten has a thickness in a range of about 80 nm to 200 nm so as to maintain a satisfactory light-shielding property.